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CORRESPONDENCE

Vertebral tuberculosis complicated with retropharyngeal, parathoracic, and huge iliopsoas abscess, successfully treated with image-guided percutaneous drainage

Dear Editor,

Tuberculous retropharyngeal, parathoracic, and iliopsoas abscess is a rare entity, and was regarded as secondary to vertebral tuberculosis. Because of its deep location and insidious course, it has always been a diagnostic and therapeutic challenge. We report a case of vertebral tuberculosis complicated with multiple para-spinal deep abscesses. The magnetic resonance imaging (MRI) and computed tomography (CT) scans confirmed the image diagnosis (Figures 1A and 1B), and microbiologic culture of the abscess grew *Mycobacterium tuberculosis*. After receiving antituberculosis medicine and CT-guided percutaneous drainage, the patient's condition improved. The antituberculosis drugs in conjunction with percutaneous drainage under image guidance are an effective therapy in such a patient.

A 37-year-old man presented to our hospital with a 1-month history of middle back pain, dysphagia, and a low-grade fever. The patient had a history of psoriasis vulgaris without medication. He did not have a history of diabetes mellitus, malignancy, or did not take any other immunosuppressive agents. His wife, of Vietnamese descent, had a history of pulmonary tuberculosis 4 years prior, and she had received a total of 6 months of antituberculosis treatment. His initial laboratory evaluation showed leukocytosis (white blood cell count of 10,720 cells/mm^3) with predominant neutrophils (81.6%) and elevated levels of C-reactive protein (12.44 mg/dL).

Chest radiograph revealed a barely-visible bilateral paraspinal soft-tissue component along the spine column. Plain abdomen X-ray showed obliteration of the right psoas shadow. Ultrasonography disclosed an homogenous bulky fluid collection measuring 10 × 8.5 cm in the right psoas muscle. CT scan showed a huge abscess measuring 8.5 × 9.2 × 20 cm in the right psoas muscle and 4.0 × 2.9 × 5.4 cm in the left psoas muscle (Figure 1B). Subsequently, MRI analysis confirmed multiple vertebral spondylodiscitis from the cervical spine to lumbar spine as well as a retropharyngeal, paraspinal thoracic, and paraspinal lumbar abscess (Figure 1A). CT-guided percutaneous drainage of the psoas abscess yielded 780 mL of grossly purulent, nonfoul smelling fluid from the right huge iliopsoas abscess and 70 mL from the left psoas muscle. The duration of the catheter drainage was about 15 days in total. The abscess fluid analysis showed high white blood cell counts of 38,700 cells/mm^3, low glucose of 5 mg/dL, lactate dehydrogenase of 6121 U/L, and total protein of 6.57 mg/dL. Gram staining and bacterial culture of the abscess were all negative. Blood cultures were sterile. The acid-fast staining of the abscess was positive, and psoas abscess culture grew *M. tuberculosis*. Meanwhile, sputum acid-fast staining and mycobacterial culture were all negative. The tests for antinuclear antibodies, rheumatoid factors, and antibodies to the human immunodeficiency virus all showed negative findings. Subsequently, antituberculous medications were given for a total of 1 year. The patient's clinical condition improved, and the abscess gradually subsided.

Iliopsoas abscess is a collection of pus in the iliopsoas compartment and is now considered a rare disease. It was first described by Mynter[1] in 1881 as psoitis. Psoas abscesses may be classified as primary or secondary, depending on the presence or absence of an underlying disease.[2] Most cases of primary iliopsoas abscesses are caused by *Staphylococcus aureus*.[1,2] Secondary iliopsoas develop as a result of contiguous spread from a local infective foci or inflammatory or neoplastic disease of the digestive tract, genitourinary, or vertebral origin.[1–4]

In comparison with nontuberculous cases, a lower frequency of fever (33.3% vs. 87.7%) and leukocytosis (33.3% vs. 71.6%) were noteworthy in patients with tuberculous iliopsoas abscesses.[5,6] The delay between onset of symptoms and diagnosis in patients with tuberculous abscesses is

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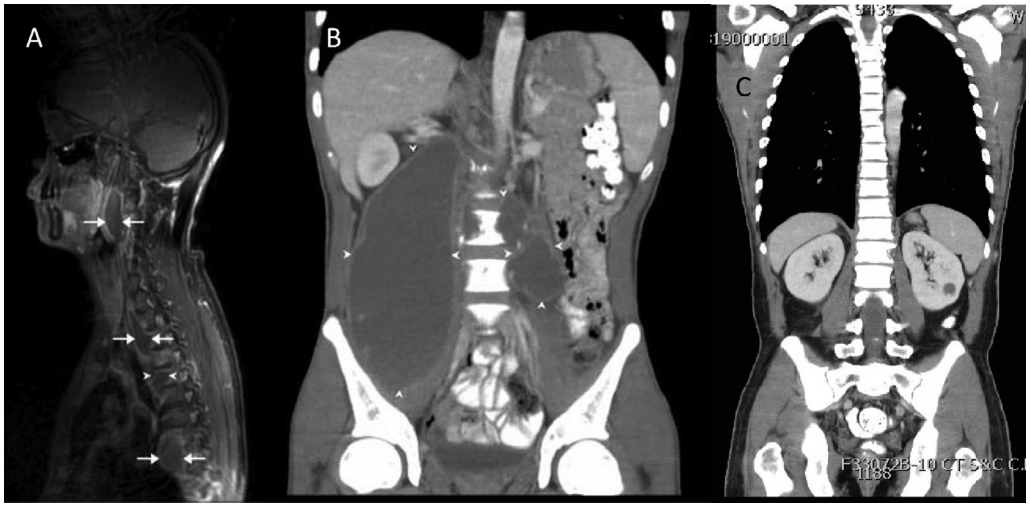

Figure 1. Imaging. (A) Magnetic resonance imaging confirmed vertebral spondylodiscitis (arrowhead), and retropharyngeal and multiple paraspinal thoracic abscesses (arrows); (B) Computed tomography scan revealed a large abscess measuring 8.5 × 9.2 × 20 cm in the right iliopsoas muscle (arrowheads) and 4.0 × 2.9 × 5.4 cm in the left iliopsoas muscle (arrowheads). (C) the computed tomography scan showed that the multiple tuberculous abscess had resolved after antituberculous drug therapy.

significantly longer than those with nontuberculous abscesses (61 days vs. 21 days).[5] With such variable and nonspecific presentations, a misdiagnosis or delayed diagnosis is frequently made.[5,6]

Recently, the diagnosis of iliopsoas abscess has likely increased due to improvements in imaging techniques. Ultrasonography indicated a diagnosis of psoas abscesses in 52.8% of patients, whereas CT and MRI both enabled diagnosis in 100% of pateints.[2,4,5] Open surgery should only be reserved for patients with Crohn's disease or other gastrointestinal diseases, the presence of contraindications such hemostatic disorders, marked neurological deficit, large abscesses causing respiratory impairment or multi-locular abscesses, and after failure of the percutaneous technique.[2–6]

Although uncommon, *M. tuberculosis* infections should be considered in patients with multiple spondylodiscitis complicated with para-spinal and iliopsoas abscess, as it presents a diagnostic and therapeutic challenge to physicians. Tuberculous iliopsoas abscesses should be treated with antituberculosis agents initially, with or without image-guided percutaneous drainage depending on the abscess size.

Conflicts of interest

The authors have nothing to disclose.

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